

1 Abstract of the Disclosure

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3 A long-wavelength VCSEL, and method of fabrication, includes
4 a long-wavelength active region epitaxially grown on a compatible
5 substrate with a high heat conductivity DBR mirror stack
6 metamorphically grown on the active region. A supporting
7 substrate is bonded to the DBR mirror stack and the compatible
8 substrate is removed. A second mirror stack, either a DBR or a
9 dielectric mirror stack, is formed on the opposite surface of the
10 active region. Preferably, an InP based active region is grown
11 on an InP based substrate and an AlAs/GaAs based metamorphic DBR
12 mirror stack is metamorphically grown on the active region. The
13 supporting substrate may be either an InP based substrate bonded
14 to the active region or a layer of plated metal, such as copper,
15 silver, gold, nickel, aluminum, etc.